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REMARKS

Claims 18 - 24 are pending in the present Application. Claims 1 – 3, 5 – 11 and 13 – 17 have been withdrawn. Claim 18 has been amended for clarity, brevity, and consistency of language. This amendment does not change the scope of the claim. No claims have been canceled or added, leaving Claims 18 - 24 for consideration upon entry of the present Amendment.

No new matter has been introduced by these amendments. Reconsideration and allowance of the claims are respectfully requested in view of the above amendments and the following remarks.

Information Disclosure Statement

Applicants note that the Examiner has not considered the art submitted in the Information Disclosure Statement filed on December 14, 2005. Applicants respectfully request that the art submitted in this Information Disclosure Statement be considered and a fully initialed PTO Form A820 be returned to the Applicants.

Claim Rejections Under 35 U.S.C. § 112, First Paragraph

Claim 22 stands rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement.

The claim allegedly contains subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. More specifically, the Office Action states:

> The newly submitted claim 22 filed on 4/14/2005 included the limitation "deposing a thermoset coating on a side of the plastic surface opposite the core" as recited in lines 1-2 was not described in the specification as originally filed and appear to be new matter.

(Office Action, page 2) Applicants traverse this rejection.

In the application as filed it is taught that a substrate can be homogeneous or non-homogeneous and a coating can be applied over the substrate:

> In order to address the above design issues, this substrate can be homogenous or non-homogenous, and can have numerous geometries. The homogenous substrate can be a plastic which is substantially solid or may contain a varying degree of porosity or one or more cavities (see Figures 15, 16 17, and 33 to 35). As is illustrated in these Figures, the density of the substrate can be reduced by employing one or more hollow cavities (holes, bubbles, ribs, passageways, webs, etc.) within the substrate while maintaining a sufficiently smooth surface either by containing the cavities within the substrate or by utilizing a coating over the substrate in the area of the storage media where the data will be stored.

(Paragraph [0046])

The term non-homogeneous is yet further described to also comprise a substrate having a core:

> The non-homogenous substrate can be a plastic with a filler, core, or other reinforcement or insert, or may be a composite material, or combinations thereof (see Figures 8 to 27).

(Paragraph [0048])

The coating materials are then described to comprise polymers, more specifically thermosets, and even more specifically, examples of thermosetting materials are disclosed:

> In theory, any plastic that exhibits appropriate properties and can be employed as the substrate, core, and/or coating.... Additionally, it is possible for thermosets to be used in the application provided the thermoset possess sufficient flow under the stamping conditions to permit formation of the desired surface features.... Some possible examples of plastics include, but are not limited to... thermosetting resins such as epoxy, phenolic, alkyds, polyester, polyimide, polyurethane, mineral filled silicone, bis-maleimides, cyanate esters, vinyl, and benzocyclobutene resins, in addition to blends, copolymers, mixtures, reaction products and composites comprising at least one of the foregoing.

(Paragraphs [0053] – [0055])

From at least the sections cited above, Applicants assert that the step comprising disposing a thermoset coating on a side of the plastic surface opposite the core is clearly taught in the application as filed. Reconsideration and withdrawal of the rejection are respectfully requested.

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Claim Rejections Under 35 U.S.C. § 103(a)

Claims 18 – 24 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over U.S. Patent No. 5,972,461 to Sandstrom in view of U.S. Patent No. 6,055,140 to Marchon. Applicants respectfully traverse this rejection.

The teachings of Sandstrom are focused on improving the flatness of an optical disk. To achieve this, Sandstrom developed a polymer disk having increased thickness:

> A rewritable optical recording disk has a substrate with an increased thickness that is greater than or equal to approximately 1.5 mm and less than or equal to 2.5 mm. The increased thickness of the substrate enhances the flatness of the recording disk relative to the recording plane.

(Abstract)

Marchon discloses an injection-molded disk for use in computer hard drives (i.e., non-optical) having a stiff insert disposed within the substrate to reduce vibration of the disk while in use. (Abstract and Background of the Invention)

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a prima facie case of obviousness, i.e., that all elements of the invention are disclosed in the prior art; that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references; and that the proposed modification of the prior art had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. In re Fine, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); In Re Wilson, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); Amgen v. Chugai Pharmaceuticals Co., 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996). In other words, it is not relevant what an artisan could do, but it must be determined what an artisan would do, with an expectation of success, based upon the teachings of the references.

Sandstrom's efforts were directed at improving the flatness of optical media while Marchon's efforts were focused on decreasing vibration in non-optical media. Sandstrom achieved improved flatness by increasing the thickness of the polymer substrate. Sandstrom teaches the injection molding process causes thinner substrates to warp and tilt:

> The disk fabrication process, for example, can produce warpage and tilt in the disk. With thinner substrates, in particular, the effect of gravity and thermal gradients

> during the post-mold cooling phase can cause uneven densification and unbalanced thermal stresses at different areas of the disks. For example, portions of the disk closest to the mold surface will cool more quickly. The result is disk warpage and tilt.

(Col. 2, line 63 – Col. 3, line 4)

Marchon identifies the issues with thin plastic substrates, namely "most plastic substrates are likely to offer unacceptable vibration characteristics at high RPM if made thin (31.5 mils or thinner)"; i.e., about 0.8 mm or thinner. (Col. 1, lines 53 – 55; and Claim 3)

Hence, Marchon addresses vibration by using an insert in the disc, and claims discs having a thickness of about 0.8 mm or thinner. (Claim 3) Sandstrom addresses warp and tilt in a disk by increasing the thickness of the disk; e.g., about 1.5 mm to about 2.5 mm. (Abstract) Sandstrom and Marchon address the issues they face in very different fashions. It is alleged in the Office Action that it would have been obvious to modify the process of Sandstrom as taught by Marchon. (Office Action, page 3) However, there is no motivation to rely on any teachings of Marchon in addressing the disk of Sandstrom. It is not relevant whether someone could modify Sandstrom. The important criteria is what one skilled in the art would be motivated to do, with an expectation of success, based upon the teachings of Sandstrom and Marchon. However, considering how they were producing very different disks (e.g., the disk of Marchon is claimed as about half (and even less than half) the thickness of the disk of Sandstrom), considering that Sandstrom addresses the issues, e.g., warpage and tilt, by increasing thickness, there is no motivation to combine Sandstrom with a reference that is teaching a thin disk. With no motivation, there is no *prima facie* case of obviousness. Reconsideration and withdrawal of the rejection are respectfully requested.

It is further noted that the Office Action states:

> Sandstrom teaches a process of making an optical data storage disk comprising steps of: injection molding a substrate comprising a plastic surface (such as thermoplastics or thermosets as per claim 20) and a preformed core (such as metal or glass; as per claim 19); and disposing a reflective layer on at least one surface of the substrate; wherein the data storage media has an axial displacement peak of less than about 62 microns under shock or vibration excitation (see also col. 7, lines 4-54).

(Office Action, Page 3) Applicants rebut this interpretation of the section of Sandstrom cited in the Office Action. The cited section states:

> In an air-incident construction, the optical characteristics of substrate 12 are largely irrelevant. Specifically, because the beam does not enter disk 10 through substrate 12, the optical properties of the substrate have no direct optical effect on performance. In contrast, substrate-incident disks typically require substrates having particular optical properties. Thus, in an air-incident disk, it is conceivable that a wider array of materials could be used to fabricate substrate 12. Also, such materials could be less expensive than higher grade optical materials. For example substrate 12 can be formed from a variety of materials, including thermosets, thermoplastics, metal, *or* glass. The selected materials can be transparent or opaque.... For optical recording, however it is typically desirable to form a physical format on substrate 12 to facilitate optical tracking. *Therefore, it may be most desirable to form substrate 12 from a material that can be readily replicated with a physical format in a mold.*

(Col.6, line 62 – Col. 7, line 14; *emphasis* added) In other words, instead of the plastic, the substrate can be metal, glass... Sandstrom does not teach a core, they identify alternative materials and then they proceed to teach "An example of a particular material that is readily embossable is the high-flow polycarbonate typically used for CD production." (Col. 7, lines 15 – 17) Sandstrom teaches the substrate with layers such as the recording layer, reflective layer, and the like. This citation does not teach a substrate with a core.

The Office Action also states:

> Sandstrom also teaches that the substrate could be formed from two of more layers bonded together such as laminating (equivalent with coating, as per claim 22) the plastic (polycarbonate) and the core (metal or glass).

(Office Action, Page 3) Applicants first note that Claim 22 is not limited to coating. Claim 22 "disposes" a thermoset coating. It is also noted that the coating is disposed on a side of the plastic surface opposite the core. Sandstrom fails to teach a core. Claim 22 at least comprises the thermoset coating, the plastic surface, and the core. This passage of Sandstrom fails to teach all of these elements.

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly,

reconsideration and withdrawal of the rejections and allowance of the case are respectfully requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 50-1131.

Respectfully submitted,

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